

## EAST Search History

| Ref # | Hits | Search Query  | DBs   | Default Operator | Plurals | Time Stamp       |
|-------|------|---|---|------------------|---------|------------------|
| L1    | 210  | 398/50.ccls.  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:34 |
| L2    | 162  | 398/75.ccls.  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:34 |
| L3    | 665  | 709/235.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:34 |
| L4    | 5106 | 709/217.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:34 |
| L5    | 2172 | 709/218.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:34 |
| L6    | 4519 | 709/219.ccls.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:34 |
| L7    | 201  | (cache intermediary proxy thin)<br>near3 (server\$1) same (congestion)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:43 |
| L8    | 232  | (cache intermediary proxy thin)<br>near3 (server\$1) same (congest\$6)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:43 |
| L9    | 261  | (cache intermedia\$6 proxy thin)<br>near3 (server\$1) same (congest\$6) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:37 |

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| L10 | 1151 | (cache intermedia\$6 proxy thin)<br>near3 (server\$1) same (network\$6<br>with traffic)             | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:38 |
| L11 | 5    | 10 and 3  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:38 |
| L12 | 67   | 10 and 4  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:37 |
| L13 | 35   | 10 and 5  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:37 |
| L14 | 75   | 10 and 6  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:37 |
| L15 | 35   | (cache intermedia\$6 proxy thin)<br>near3 (server\$1) same (packet adj<br>loss)                     | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:39 |
| L16 | 62   | (cache intermedia\$6 proxy thin)<br>near3 (server\$1) same (packet with<br>(loss lose losing lost)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:39 |
| L17 | 213  | (cache caching intermediary proxy<br>thin) near3 (server\$1) same<br>(congestion)                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:43 |
| L18 | 244  | (cache caching intermediary proxy<br>thin) near3 (server\$1) same<br>(congest\$6)                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2007/06/19 18:44 |

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| L19   | 14197 | (congest\$6) same (messag\$5 indicator\$1 indication\$1 quer\$5 response\$1) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:45 |
| L20   | 163   | 19 and 3   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:45 |
| L21   | 85    | 19 and 4   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:45 |
| L22   | 46    | 19 and 5   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:45 |
| L23   | 91    | 19 and 6   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/06/19 18:46 |



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Terms used network congestion cache

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Relevance scale ☐ ☐ ☐ ☐ ☐1 [Caching in networks \(extended abstract\)](#)

Friedhelm Meyer auf der Heide, Berthold Vöcking, Matthias Westermann

February 2000 **Proceedings of the eleventh annual ACM-SIAM symposium on Discrete algorithms SODA '00****Publisher:** Society for Industrial and Applied MathematicsFull text available: pdf(1.09 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)2 [Mitigating server-side congestion in the Internet through pseudoserving](#)

Keith Kong, Dipak Ghosal

August 1999 **IEEE/ACM Transactions on Networking (TON)**, Volume 7 Issue 4**Publisher:** IEEE PressFull text available: pdf(229.43 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** Internet server technology, caching, flash-crowd, pseudoserving3 [Papers: A survey of web caching schemes for the Internet](#)

Jia Wang

October 1999 **ACM SIGCOMM Computer Communication Review**, Volume 29 Issue 5**Publisher:** ACM PressFull text available: pdf(1.15 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)


The World Wide Web can be considered as a large distributed information system that provides access to shared data objects. As one of the most popular applications currently running on the Internet, the World Wide Web is of an exponential growth in size, which results in network congestion and server overloading. Web caching has been recognized as one of the effective schemes to alleviate the service bottleneck and reduce the network traffic, thereby minimize the user access latency. In this pap ...

4 [Web caching using access statistics](#)

Adam Meyerson, Kamesh Munagala, Serge Plotkin

January 2001 **Proceedings of the twelfth annual ACM-SIAM symposium on Discrete algorithms SODA '01**

**Publisher:** Society for Industrial and Applied Mathematics

Full text available:  pdf(862.29 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We consider the problem of caching web pages with the objective of minimizing latency of access. Demands for web domains/pages are computed using access statistics; the frequency with which these statistics change is considerably longer than the frequency of page requests. We model caches as being constrained by total size and total number of ports: each cache can handle only a limited request rate and can store only a limited number of domains (eg. modelling bounded update traffic). When the ...

## 5 Improving reliable transport and handoff performance in cellular wireless networks

Hari Balakrishnan, Srinivasan Seshan, Randy H. Katz


December 1995 **Wireless Networks**, Volume 1 Issue 4

**Publisher:** Kluwer Academic Publishers

Full text available:  pdf(1.12 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

TCP is a reliable transport protocol tuned to perform well in traditional networks where congestion is the primary cause of packet loss. However, networks with wireless links and mobile hosts incur significant losses due to bit-errors and hand-offs. This environment violates many of the assumptions made by TCP, causing degraded end-to-end performance. In this paper, we describe the additions and modifications to the standard Internet protocol stack (TCP/IP) to improve end-to-end reliable tr ...

## 6 Papers: Effects of ensemble-TCP

 Lars Eggert, John Heidemann, Joe Touch


January 2000 **ACM SIGCOMM Computer Communication Review**, Volume 30 Issue 1

**Publisher:** ACM Press

Full text available:  pdf(1.57 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)


TCP currently recalculates the state of each connection from a fixed set of initial parameters; this recalculation occurs over several round trips, during which the connection can be less than efficient. TCP control block sharing is a technique for reusing information among connections in series and aggregating it among connections in parallel. This paper explores the design space of a modified TCP stack that utilizes these two ideas, and one possible design (E-TCP) is presented in detail. E-TCP ...

## 7 Improving TCP/IP performance over wireless networks

 Hari Balakrishnan, Srinivasan Seshan, Elan Amir, Randy H. Katz

December 1995 **Proceedings of the 1st annual international conference on Mobile computing and networking MobiCom '95**

**Publisher:** ACM Press

Full text available:  pdf(1.04 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

TCP is a reliable transport protocol tuned to perform well in traditional networks made up of links with low bit-error rates. Networks with higher bit-error rates, such as those with wireless links and mobile hosts, violate many of the assumptions made by TCP, causing degraded end-to-end performance. In this paper, we describe the design and implementation of a simple protocol, called the snoop protocol, that improves TCP performance in wireless networks. The protocol modifies network-la ...


## 8 Modeling the performance of HTTP over several transport protocols

John Heidemann, Katia Obraczka, Joe Touch

October 1997 **IEEE/ACM Transactions on Networking (TON)**, Volume 5 Issue 5

**Publisher:** IEEE Press

Full text available: Additional Information:

 [pdf\(388.85 KB\)](#)
[full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** HTTP, TCP, computer protocol performance, internetworking


9 [Mocha: a quality adaptive multimedia proxy cache for internet streaming](#)



Reza Rejaie, Jussi Kangasharju

January 2001 **Proceedings of the 11th international workshop on Network and operating systems support for digital audio and video NOSSDAV '01**

Publisher: ACM Press

Full text available:  [pdf\(240.20 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Multimedia proxy caching is a client-oriented solution for large-scale delivery of high quality streams over heterogeneous networks such as the Internet. Existing solutions for multimedia proxy caching are unable to adjust quality of cached streams. Thus these solutions either can not maximize delivered quality or exhibit poor caching efficiency. This paper presents the design and implementation of Mocha, a quality adaptive multimedia proxy cache for layered encoded streams ...


10 [Network performance effects of HTTP/1.1, CSS1, and PNG](#)



Henrik Frystyk Nielsen, James Gettys, Anselm Baird-Smith, Eric Prud'hommeaux, Håkon Wium Lie, Chris Lilley

October 1997 **ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM '97 conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '97**, Volume 27 Issue 4

Publisher: ACM Press

Full text available:  [pdf\(1.62 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We describe our investigation of the effect of persistent connections, pipelining and link level document compression on our client and server HTTP implementations. A simple test setup is used to verify HTTP/1.1's design and understand HTTP/1.1 implementation strategies. We present TCP and real time performance data between the libwww robot [27] and both the W3C's Jigsaw [28] and Apache [29] HTTP servers using HTTP/1.0, HTTP/1.1 with persistent connections, HTTP/1.1 with pipelined requests, and ...

11 [Replacement policies for a proxy cache](#)

Luigi Rizzo, Lorenzo Vicisano

April 2000 **IEEE/ACM Transactions on Networking (TON)**, Volume 8 Issue 2

Publisher: IEEE Press

Full text available:  [pdf\(277.42 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** Web, caching, communication networks, policies, replacement


12 [Analyzing stability in wide-area network performance](#)



Hari Balakrishnan, Mark Stemm, Srinivasan Seshan, Randy H. Katz

June 1997 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 1997 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '97**, Volume 25 Issue 1

Publisher: ACM Press


Full text available:  [pdf\(1.76 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The Internet is a very large scale, complex, dynamical system that is hard to model and analyze. In this paper, we develop and analyze statistical models for the observed end-to-end network performance based on extensive packet-level traces (consisting of approximately 1.5 billion packets) collected from the primary Web site for the Atlanta Summer Olympic Games in 1996. We find that observed mean throughputs for these transfers measured over 60 million complete connections vary widely as a funct ...


### 13 [Performance analysis of cache strategy for signaling traffic management in a wireless ATM network](#)

Gi Moo Choi, Dong Ho Cho  
November 2000 **Wireless Networks**, Volume 6 Issue 5

**Publisher:** Kluwer Academic Publishers

Full text available:  [pdf\(417.77 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

### 14 [Caching: A multicast-based distributed file system for the internet](#)

 Björn Grönvall, Ian Marsh, Stephen Pink

September 1996 **Proceedings of the 7th workshop on ACM SIGOPS European workshop: Systems support for worldwide applications EW 7**

**Publisher:** ACM Press

Full text available:  [pdf\(799.81 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

JetFile is a file system designed with multicast as its distribution mechanism. The goal is to support a large number of clients in an environment such as the Internet where hosts are attached to both high and low speed networks, sometimes over long distances. JetFile is designed for reduced reliance on servers by allowing client-to-client updates using scalable reliable multicast. Clients on high speed networks prefetch large numbers of files. On low speed networks such as wireless, special cac ...

### 15 [The cache location problem](#)


P. Krishnan, Danny Raz, Yuval Shavitt  
October 2000 **IEEE/ACM Transactions on Networking (TON)**, Volume 8 Issue 5

**Publisher:** IEEE Press

Full text available:  [pdf\(470.11 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** location problem, mirror placement, transparent cache

### 16 [Adaptive backoff synchronization techniques](#)

 A. Agarwal, M. Cherian

April 1989 **ACM SIGARCH Computer Architecture News , Proceedings of the 16th annual international symposium on Computer architecture ISCA '89**, Volume 17 Issue 3

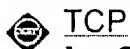
**Publisher:** ACM Press

Full text available:  [pdf\(1.44 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Shared-memory multiprocessors commonly use shared variables for synchronization. Our simulations of real parallel applications show that large-scale cache-coherent multiprocessors suffer significant amounts of invalidation traffic due to synchronization. Large multiprocessors that do not cache synchronization variables are often more severely

impacted. If this synchronization traffic is not reduced or managed adequately, synchronization references can cause severe congestion in the network. ...

## 17 Differentiated end-to-end Internet services using a weighted proportional fair sharing



TCP

Jon Crowcroft, Philippe Oechslin

July 1998 **ACM SIGCOMM Computer Communication Review**, Volume 28 Issue 3

**Publisher:** ACM Press

Full text available: pdf(872.28 KB) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

In this document we study the application of weighted proportional fairness to data flows in the Internet. We let the users set the weights of their connections in order to maximise the utility they get from the network. When combined with a pricing scheme where connections are billed by weight and time, such a system is known to maximise the total utility of the network. Our study case is a national Web cache server connected to long distance links. We propose two ways of weighting TCP connecti ...

## 18 Placement algorithms for hierarchical cooperative caching

Madhukar R. Korupolu, C. Greg Plaxton, Rajmohan Rajaraman

January 1999 **Proceedings of the tenth annual ACM-SIAM symposium on Discrete algorithms SODA '99**

**Publisher:** Society for Industrial and Applied Mathematics

Full text available: pdf(1.36 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

## 19 A scalable location service for geographic ad hoc routing



Jinyang Li, John Jannotti, Douglas S. J. De Couto, David R. Karger, Robert Morris

August 2000 **Proceedings of the 6th annual international conference on Mobile computing and networking MobiCom '00**

**Publisher:** ACM Press

Full text available: pdf(1.28 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

GLS is a new distributed location service which tracks mobile node locations. GLS combined with geographic forwarding allows the construction of ad hoc mobile networks that scale to a larger number of nodes than possible with previous work. GLS is decentralized and runs on the mobile nodes themselves, requiring no fixed infrastructure. Each mobile node periodically updates a small set of other nodes (its location servers) with its current location. A node sends its position updates to its l ...

## 20 Implications of proxy caching for provisioning networks and servers



Mohammad S. Raunak, Prashant Shenoy, Pawan Goyal, Krithi Ramamritham

June 2000 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 2000 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '00**, Volume 28 Issue 1

**Publisher:** ACM Press

Full text available: pdf(972.72 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper, we examine the potential benefits of web proxy caches in improving the effective capacity of servers and networks. Since networks and servers are typically provisioned based on a high percentile of the load, we focus on the effects of proxy caching on the tail of the load distribution. We find that, unlike their substantial impact on the average load, proxies have a diminished impact on the tail of the load distribution. The exact reduction in the tail and the corresp ...



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IET JNL IET Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IET CNF IET Conference Proceeding

IEEE STD IEEE Standard

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- ☐ 1. **Distributed Cache System for Large-Scale Networks**  
Kataoka, Mikio; Toumura, Kunihiro; Okita, Hideki; Yamamoto, Junji; Suzuki, T  
[Computing in the Global Information Technology, 2006. ICCGI '06. International Conference on](#)  
Aug. 2006 Page(s):40 - 40  
Digital Object Identifier 10.1109/ICCGI.2006.26  
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